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Adolescent girls' primary school mobility and educational outcomes in urban Kenya

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ABSTRACT

With hundreds of primary schools to choose from, young adolescent girls in Nairobi's urban informal settlements commonly transfer schools. We qualitatively investigate the causes and quantitatively investigate the consequences of such mobility. Key reasons for transferring schools include difficulty in paying fees and anticipated net benefits from a different school. Transferring during lower primary leads to a poorer resourced school, while transferring during upper primary a higher resourced school. Correspondingly, transfers during lower primary are associated with falling behind, while in upper primary with getting ahead, as well as with improved basic reading and math test scores.

1. Introduction

In recent decades, governments and international development agencies have increasingly promoted Free Primary Education (FPE) (World Bank, 2009). For example, in sub-Saharan Africa over a dozen countries have implemented fee elimination programs since 1994. While evidence of increased educational access is growing, the full effects of FPE on schooling are somewhat contested and remain the subject of research. This is at least in part because of the challenge of assessing causal effects stemming from national policy changes (Lucas and Mbiti, 2012a; Iscan et al., 2015). In Kenya, for example, some find that FPE led to an increase in public school access without compromising public school quality (e.g., Lucas and Mbiti, 2012b), while others find no change in net national public school enrollment (Bold et al., 2011a). Regardless, a common finding is that there was a substantial increase in the number of private schools, an important trend observed elsewhere in the developing world (Baum et al., 2014; Heyneman and Stern, 2014; Dixon et al., 2015; Muralidharan and Sundararaman, 2015), particularly in urban areas (Dixon and Tooley, 2012).

The increase in private schools and therefore in schooling options, has led to a line of inquiry examining school choice and mobility, especially in settings characterized by multiple schools with large differences in resources. Corresponding to more options, evidence is growing that students commonly transfer schools, including in Kenya, Malawi and Uganda. Qualitative and quantitative research examining the determinants of such transfers point to several relevant indicators of school services and perceived quality (Oketch et al., 2010b; Ngware et al., 2013; Taniguchi, 2017). In contrast to developed country settings (where research indicates that school transfers are linked to poorer outcomes), however, in developing countries the effects that such transfers have on subsequent educational outcomes is largely unexplored.

In this paper, we investigate the causes and consequences of school mobility in an environment with ample choice and mobility. The approximately 2200 young adolescent girls we examine reside in a compact and densely populated urban informal settlement and attend nearly 250 different local schools. Moreover, many of them transfer during primary school, with one-third having transferred once and another one-third more than once. We employ both qualitative and quantitative methods to examine the schooling experiences of these girls. First, we explore the reasons for school transfers via qualitative interviews and focus groups with parents, teachers and school administrators, and the girls themselves. Second, we explore whether girls who transfer transition to lower or higher resourced schools, using information from detailed school-level surveys. Third, we examine the consequences of school transfers using quantitative evidence from an observational survey of girls. Specifically, we employ multivariate regression controlling for age-cohort school-level fixed effects, alongside key family background characteristics and a measure of individual-level

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ability to estimate the association between school transfers and grade progression,[1] reading and math test scores.

2. Literature review

Similar to other East African countries (Oketch and Rolleston, 2007), the 2003 introduction of Free Primary Education (FPE) abolishing school fees in public (or government) primary schools in Kenya removed a significant barrier to schooling—direct tuition fees. Gross primary enrollment rates rose from 96% in 2000 to 107% in 2003. Since then, they have continued to rise with fluctuations and typically have been over 110% since 2007. Gross secondary enrollment rates climbed even more substantially, from approximately 40% in 2000 to 60% in 2009.[2] As a result, public schools have grown (in both size and number).

In part due to overcrowding in public schools in some urban areas, however, increased demand has been met by a proliferation of private (or non-government) schools, particularly low-cost private schools, often started by parents, communities and non-governmental organizations (Abuya et al., 2013; Ngware et al., 2013). Distinct from high fee, elite institutions, some scholars have referred to these low-cost informal schools as "private schools of the poor" (Tooley et al., 2008; Heyneman and Stern, 2014). Because they serve the poor, such schools may have particularly beneficial consequences for economic development (Härmä, 2015). In Kenya, the number of private schools nationwide increased four-fold in the three years after the introduction of FPE (Nishimura and Yamano, 2013). In Kibera, Dixon and Tooley (2012) document net growth from 76 to 116 private schools between 2003 and 2007. While not entirely comparable due to a somewhat different catchment area and sampling frame, retrospective data used in this paper (described in detail below), confirm a similarly large expansion rate in private schools over that same period, as well as continued expansion from 2007 to 2013.

Despite FPE, then, many Kenyan primary school students do not attend public school, especially in urban areas. In two urban informal settlements in Nairobi in 2007, just under half of students attended private primary schools, twice as high as in nearby formal urban settlements (Oketch et al., 2010a). By 2012, the fraction had risen to nearly two-thirds (Ngware et al., 2013). In the sample used in this paper, about three quarters of the girls in lower primary (grades 1–4) currently attend private school, but this falls to about one-half in upper primary (grades 5–8).

Underlying these static snapshots of school choice, however, is substantial school mobility, both within the private school sector and across the private and public sectors. Oketch et al. (2010a) report that primary school transfers were frequent among children from the low fee private to other private schools and from public to private schools, but less frequent from private to public schools (Oketch et al., 2010a). Moreover, school transfers were more common for children living in urban informal settlements than for children living in wealthier formal settlements (Oketch et al., 2010b).

The urban Kenyan context, therefore, is characterized by ample school choice and significant school mobility, with potentially beneficial consequences for students (Muralidharan and Sundararaman, 2015). Although a large developing country literature examines the determinants of schooling outcomes such as enrollment or grades attained (Glewwe, 2014), evidence on the determinants of primary school choice is relatively sparse. There is even less research on the determinants of school *mobility* although conceptually the two overlap. School mobility can be treated as a repeated or annual school choice decision, with updated information about and experience with the current choice, as well as possible additional costs associated with transferring. Conditional on residential location, each period individuals decide whether to remain in their current school or to transfer. Underlying reasons for transfers can relate to (changing) individual, household, or current and target school conditions, as well as to individual unobserved heterogeneity of the student related to her ability, motivation or aspirations. Such transfers may encompass strategic grade repetition that allows students an additional year to prepare for important national exams. Related or "joint" residential relocation decisions also play a role in school transfers, whether they are driven by school choice itself (e.g., a girl moving to stay with a relative to be near a preferred school) or by other factors (e.g., a parent relocating the family for work opportunities).

The multiple potential reasons behind school transfers and potential joint decisions that lead to them suggest that the net effect of transfers on subsequent educational outcomes or on the school system as a whole is impossible to sign *ex ante*. Transfers can improve student outcomes if, for example, students achieve a better match, attend a school with resources or conditions that produce better outcomes, or associate with stronger peers enabling them to benefit from positive peer effects. On the other hand, transfers can lead to poorer outcomes if students experience substantial integration or assimilation costs in their new schools or if parents are poorly informed about potentially deleterious school characteristics or unforeseen costs. In addition to these "direct" individual-level effects, there can also be "indirect" or general equilibrium effects resulting from changes in the educational system as a whole. For example, increased numbers of schools can lead to greater competition between schools thereby improving their efficiency and student outcomes. On the other hand, higher student mobility may lead to greater frictions or integration problems with teachers and existing students constantly having to adapt to newcomers disrupting the classroom environment (Alderman et al., 2001; Glick and Sahn, 2006; Muralidharan and Sundararaman, 2015).

With this contextual background and conceptual framework in mind, we briefly summarize the relevant evidence on the determinants of primary school choice and school transfers from recent studies on Kenya (Oketch et al., 2010a,b; Nishimura and Yamano, 2013; Ngware et al., 2013). Findings for Kenya broadly reflect the evidence from other developing countries (Alderman et al., 2001; Glick and Sahn, 2006; Taniguchi 2015, 2017).

Front and center to the literature on the determinants of school choice and mobility is the notion that alongside the importance of price (a component of which is distance capturing direct and time travel costs), perceived school quality is a key determinant. School choice and mobility plausibly are related to a variety of human and material inputs into schools, as well as process and outcome measures (Ngware et al., 2011; Glewwe, 2014).[3] Information available to parents on inputs and outcomes informs their perceptions of school quality, even if research demonstrates that school inputs do not always have a clear relationship with school quality as reflected by student learning (Glewwe, 2014).[4] With this caveat regarding how strong the link between school inputs and school quality is, we consider several studies that examine how school choice relates to specific characteristics of schools.

Qualitative focus group evidence (Tooley et al., 2008; Ngware et al., 2013) and quantitative survey evidence (Oketch et al., 2010a) both suggest that parents considered perceived school quality when deciding

[1] We use the term grade although in Kenya primary school years also are known as standards 1 through 8.

[2] Statistics from World Bank Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators) accessed on 25 January 2018.

[3] The empirical measure we develop below reflects to some extent all of these aspects, though it does not capture well accountability to parents and students (Mbiti, 2016), a potentially important dimension of improving quality that might increase with expansions in private schooling (Heyneman and Stern, 2014).

[4] In Kenya, for example, there is evidence at the national level that the growth of private schools has increased standardized test scores, despite public schools having generally greater resources (Bold et al., 2011b).